

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appl. No. 10/500,124 (Q81414)

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) An electrically conductive paste comprising a particulate silver compound, a reducing agent, and a dispersant which is selected from the group consisting of hydroxypropyl cellulose, polyvinyl pyrrolidone, and polyvinyl alcohol, wherein the particulate silver compound comprises at least one of silver oxide, silver carbonate or silver acetate, and the average particle diameter of the particulate silver compound is about 0.01-10 μm ; wherein

the volume resistivity of an electrically conductive coating, which is obtained by coating the electrically conductive coating paste followed by heating, is about 3.0×10^{-6} to about $8.0 \times 10^{-6} \Omega\cdot\text{cm}$.

2-3. (Cancelled).

4. (Previously Presented) An electrically conductive paste according to claim 1, wherein the reducing agent comprises at least one of ethylene glycol, diethylene glycol, triethylene glycol or ethylene glycol diacetate.

5. (Previously Presented) An electrically conductive coating formation method comprising the step of coating the electrically conductive paste according to claim 1 followed by the step of heating the electrically conductive composition.

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6. (Previously Presented) An electrically conductive coating obtained by coating the electrically conductive paste according to claim 1 followed by heating, wherein the silver particles are mutually fused.

7. (Cancelled).

8. (Previously Presented) An electrically conductive coating obtained by coating the electrically conductive paste according to claim 1 followed by heating for about 30 minutes at about 150-200°C, which satisfies the following formula (1) when W represents the volume resistivity ($\Omega \cdot \text{cm}$) of the electrically conductive coating and X represents its specific gravity:

$$W \leq -1.72 \times 10^{-6} \times X + 2.3 \times 10^{-5} \quad (1).$$

9. (Previously Presented) An electrically conductive coating obtained by coating the electrically conductive paste according to claim 1 followed by heating for about 30 minutes at about 150-200°C, which satisfies the following formula (2) when Y represents the number of pores of about 100 nm or larger present in a surface area of about $10 \mu\text{m} \times 10 \mu\text{m}$ on the uppermost surface of the electrically conductive coating, and Z represents the heating temperature (°C):

$$Y < -46.08 \cdot Z + 10112 \quad (2).$$

10. (Previously Presented) An electrically conductive paste according to claim 1, wherein the average particle diameter of the particulate silver compound is about $0.5 \mu\text{m}$ or less.

11. (Previously Presented) An electrically conductive paste according to claim 1, wherein the particulate silver compound is produced by a liquid phase method in which silver

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oxide is obtained by reacting an aqueous alkaline solution with the product of the reaction between a silver compound and an aqueous silver nitrate solution.

12. (Previously Presented) An electrically conductive paste according to claim 11, wherein the particulate silver compound is produced by a liquid phase method and a dispersion stabilizer is added to the aqueous alkaline solution.

13. (Previously Presented) An electrically conductive paste according to claim 1, wherein a vapor phase method is used to obtain a particulate silver compound having an average particle diameter of about 0.1 μm or less by synthesizing silver oxide by heating a silver halide and oxygen in the vapor phase followed by thermal oxidation.

14. (Previously Presented) An electrically conductive paste according to claim 1, wherein the amount of reducing agent used is about 20 moles or less with respect to about 1 mole of particulate silver compound.

15. (Previously Presented) An electrically conductive paste according to claim 14, wherein the amount of reducing agent used is about 0.5-10 moles with respect to about 1 mole of particulate silver compound.

16. (Previously Presented) An electrically conductive paste according to claim 1, wherein a dispersion medium is used to disperse or dissolve the particulate silver compound and reducing agent and obtain a liquid electrically conductive composition.

17. (Previously Presented) An electrically conductive paste according to claim 16, wherein an organic solvent or an alcohol is used as the dispersion medium.

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18. (Previously Presented) An electrically conductive paste according to claim 1, wherein when the reducing agent is a liquid and the particulate silver compound is dispersed, the reducing agent also serves as a dispersion medium.

19. (Cancelled).

20. (Previously Presented) An electrically conductive paste according to claim 1, wherein the amount of the dispersant used is about 0-300 parts by weight to about 100 parts by weight of particulate silver compound.

21. (Previously Presented) An electrically conductive paste according to claim 1, wherein the viscosity of the electrically conductive composition is about 30-300 poise.

22. (Previously Presented) An electrically conductive coating obtained by coating the electrically conductive paste according to claim 1 followed by heating, wherein the particulate silver compound is reduced, and the reduced metallic silver particles form a continuous, metallic silver thin coating.

23. (Previously Presented) An electrically conductive coating which is obtained by coating an electrically conductive paste according to claim 1 followed by heating, formed on a plastic base material, wherein silver particles are mutually fused, and the volume resistivity is about 3.0×10^{-6} to about $8.0 \times 10^{-6} \Omega \cdot \text{cm}$.

24. (Previously Presented) An electrically conductive paste according to claim 1, wherein the electrically conductive paste is used for printing on a base material.